

established genus *Tournefortiopsis* from South America.—F. v. WETTSTEIN (Oesterr. Bot. Zeitschr. 65:145-156. pls. 3, 4. 1915) gives an account of an alga found in Kremsmünster, upper Austria, identifying it with *Botrydium pyriforme* Ktz., for which he proposes the generic name *Geosiphon*.—R. S. WILLIAMS (Bull. Torr. Bot. Club 42:393-404. pls. 21-25. 1915) in an article entitled "Mosses from the west coast of South America" describes several new species and records a new genus (*Pseudocrossidium*).—J. C. WILLIS (Jour. Linn. Soc. 43:49-54. 1915) in continuation of his studies on the Podostemaceae, particularly in the light of material from Brazil, has proposed a new family (Tristichaceae) to include *Tristicha*, *Lawia*, and *Weddellina*.—N. WORONICHIN (Bull. App. Bot. 8:769-807. pls. 134-136. 1915) has published several new species of fungi, including also a description of a new genus, namely *Antennulariella*.—A. ZAHLBRUCKNER (Rep. Sp. Nov. 13:528-537. 1915) has published 13 new species of *Burmeistera* and *Centropogon* from Ecuador and Colombia. The same author (*ibid.* 14:133-142. 1915) records 21 additional new species of Lobeliaceae from South America.—J. M. GREENMAN.

**Botanical researches of the Carnegie Institution.**—The annual report<sup>1</sup> of the year 1915 affords a brief review of the varied lines of botanical research in progress at the Desert Laboratory and elsewhere under the general direction of the Carnegie Institution. It also announces the report of investigations that are now being published, or that are to appear in the near future. Only a few of the more prominent lines of investigation can be noted here, and among them none is more important than the group of problems relating to the conditions of plant growth, especially in relation to soil aeration and temperature, as well as to the processes of respiration and photosynthesis, by MACDOUGAL, LIVINGSTON, CANNON, SPOEHR, and their associates. Studies upon succulents are being continued by MACDOUGAL, LANG, and BROWN; while the special water relations of plants have engaged the attention of LIVINGSTON in an improved form of atmometer and in some transpiration studies. This latter field has also been worked by BAKKE and SHREVE, using the method of standardized hygrometric paper.

Among the more important lines of phytogeographic research are investigations of osmotic pressure of cell sap in relation to environmental conditions by HARRIS, of the vegetation of Arizona mountains by SHREVE, and of climatic cycles and successions by CLEMENTS. The investigations of various root systems by CANNON, of the Salton Sea region by a corps of workers, and of the relationships of the Cactaceae by BRITTON and ROSE are being continued. There have been also climatic studies by HUNTINGTON, and genetic analyses by LLOYD, MACCALLUM, and TOWER.—GEO. D. FULLER.

<sup>1</sup> MACDOUGAL, D. T., Annual report of the director of the department of botanical research. Carnegie Inst. Washington Year Book no. 14 for 1915. pp. 55-106. 1916.